WHEN GOING MEANS BECOMING GONE: FRAMING MOTION AS STATE CHANGE IN YUKATEK

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OVERVIEW

• Yukatek frames motion semantically in terms of single-Ground location changes
• In line with this, location change descriptions may be applied to events that don’t involve Figure motion
  o similar to what has been described by Kita (1999) for Japanese
  o but on a larger scale
• There’s also a lack of ‘fictive motion’ (Talmy 1996, 2000) metaphors,
  o the existence of which Jackendoff (1983, 1990) has pointed to as one of the reasons to distinguish
    between motion and location change semantics
• The question raised here on the basis of these data is what factors are responsible for crosslinguistic variation
  in framing motion as location change?

I. BACKGROUND: TRANSLATIONAL MOTION VS. LOCATION CHANGE

• Translational motion (T-Motion) involves a homomorphic mapping from the time course of the motion event into the Path traversed (Krifka 1998).

Figure 1. Space-time diagram of translational motion

• The question is whether the linguistic representation of motion requires a semantic primitive for T-Motion,
  o as argued by Jackendoff (1983, 1990)
• or whether motion can simply be represented as a special case of state change – change of location (CoL),
  o as suggested by Miller & Johnson-Laird (1976) and Dowty (1979)
• In Jackendoff’s terms: to represent the meaning of (1a), do we need something like (1b), or can we make do
  with (1c):

  (1) a. X went to Y
  b. [[Event GO ([Thing X], [Path TO ([Place AT ([Thing Y]])]])]
  c. [[Event INCH ([Thing X], [State BE ([X], [Place AT ([Thing Y]])])]]

Jackendoff advances three arguments in favor of (1b) and against (1c):
- T-Motion is clearly a cognitive primitive, so why shouldn’t Conceptual Structure (CS) encode it as well!
  - but note that by itself, this isn’t much of an argument at all – to be accessible to cognition and language, it might well be sufficient to encode T-Motion at ‘Spatial Representation’ (SR) only!
- It’s easy to see how ‘Bounded Path’ functions representing motion FROM source and/or TO goal are decomposed along the lines of (1c)
  - but such an analysis seems less natural for ‘Route Path’ functions as in (2),
    - where location at the Ground defines neither the source nor the end state of the event,
    - but some state of the Figure in between:

(2) a. The eagle soared across the canyon.
   b. The train went through the tunnel.
   c. The expedition crossed the river.
   d. The horse jumped over the fence.

- Finally, Path functions may also be used in state descriptions which don’t encode CoL – this is what Talmy (1996, 2000) has called ‘fictive motion’:

(3) a. The highway extends from Denver to Indianapolis. (Jackendoff 1983: 172)
   b. The house faces away from the mountains. (Jackendoff 1983: 172)
   c. The firehouse is across the street from the library. (Jackendoff 1983: 167)

- Kita (1999) presents evidence that the question of T-Motion vs. CoL semantics may depend on particular verbs in particular languages
  - Japanese hairu and deru, commonly glossed ‘enter’ and ‘exit’, respectively, may be used in reference to events in which
    - the Ground moves instead of the Figure
    - Figure or Ground emerge into or disappear from the configuration
  - E.g., (4) is acceptable as a description of the scenario in Figure 2
    - suggesting that hairu indeed means ‘become inside’ rather than ‘enter’!

Figure 2. Ground motion

(4) Shikaku-ga en-ni hai-ta.
JAP square-NOM circle-LOC enter-PAST
‘The square entered the circle.’ (Kita 1999: ???)

- In line with this, Matsumoto (1996) points out that Japanese has metaphors of ‘fictive CoL’, rather than fictive motion!
- My points here:
  - Yukatek Maya shows Japanese-style CoL descriptions w/o motion semantics on a wider scale
  - and fictive motion metaphors are completely absent.
  - Moreover, there are no semantic representations of multi-Ground Paths:
    - these are instead broken down into sequences of CoL events involving single Grounds
    - each encoded by an independent clause.
- My aim is to explore how these phenomena are related
  - and to ask what factors may be responsible crosslinguistically for favoring T-Motion or CoL semantics!
II. YUKATEK MOTION EVENT DESCRIPTIONS

II.1. Lexicalization

- The verb class system:
  - verbal cores inflect for ‘status’ (Kaufman 1990), which in Yukatek combines aspectual, modal, and illocutionary meanings.
  - allomorphic variation distinguishes five verb stem classes, each with a unique set of status suffixes:

<table>
<thead>
<tr>
<th>Status category</th>
<th>Incompletive</th>
<th>Completive</th>
<th>Subjunctive</th>
<th>Imperative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>-Ø</td>
<td>-nah</td>
<td>-nak</td>
<td>-nen</td>
</tr>
<tr>
<td>Inactive</td>
<td>-Vl</td>
<td>-Ø</td>
<td>-Vk</td>
<td>-en</td>
</tr>
<tr>
<td>Inchoative</td>
<td>-tal</td>
<td>-chah</td>
<td>-chahak</td>
<td>n.a.</td>
</tr>
<tr>
<td>Dispositional</td>
<td>-tal</td>
<td>-lah</td>
<td>-l(ah)ak</td>
<td>-len</td>
</tr>
<tr>
<td>Transitive active</td>
<td>-k</td>
<td>-ah</td>
<td>-Ø / -eh</td>
<td>-Ø / -eh</td>
</tr>
<tr>
<td>passive</td>
<td>(\vee...)-Vl</td>
<td>(\vee...)-ab</td>
<td>(\vee...)-Vk</td>
<td>n.a.</td>
</tr>
<tr>
<td></td>
<td>/ -a'k</td>
<td>/ -a'b</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table 1. Yukatek status inflection according to verb class*

- Distribution of motion event information across verb classes:
  - ‘manner of motion’ (Talmy 1985, 2000) is lexicalized exclusively in members of the active verb class:

<table>
<thead>
<tr>
<th>Causation of CoL (i.e., ‘propulsiveness’)</th>
<th>entailed</th>
<th>not entailed</th>
</tr>
</thead>
<tbody>
<tr>
<td>entailed</td>
<td>ãalkab ‘run’; bááb ‘swim’; xímbal ‘walk’; ...</td>
<td>balak ‘roll’; háaarax ‘slide’; ...</td>
</tr>
</tbody>
</table>

*Table 2. Some active verbs of manner of motion*

- CoL is exclusively entailed by inactive, inchoative, and transitive verbs – these are ‘path-conflating’ (Talmy 1985, 2000).
- The overwhelming majority of tokens of CoL-denoting verbal cores in Yukatek discourse are headed by the small set of inactive verbs listed in Table 3, or by their causative counterparts.1

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1 The role of the dimensionality of the Ground in the semantics of the CoL roots warrants some discussion. Hóok ‘exit’ and õök ‘enter’ require “bounded” Ground (objects), which by conceptual necessity have to extend in a minimum of two dimensions. Similarly, (objects that project) Grounds wrt. which relations in the vertical may be specified necessarily divide Space into an upper and a lower “half”, and in this sense likewise have a minimum of two dimensions; this restriction naturally extends to the subcategorization properties of the verb roots that specify vertical CoL. The remaining roots that lexicalize CoL with specifiable end points (corresponding to ‘Bounded Paths’), bin ‘go’, táal ‘come’, u’il ‘return (to deictic center)’, luk ‘leave’, and k’uch ‘arrive’, may well basically simply lack constraints on the Grounds wrt. they encode CoL. On this account, they are compatible with 0D Grounds, but likewise with 2D and 3D Grounds; however, their use with 2D and 3D Grounds may be preempted by the more specific roots that lexicalize CoL wrt. such Grounds, following Grice’s first maxim of Quantity (cf. Grice 1975; Levinson 2000).
When going means becoming gone

<table>
<thead>
<tr>
<th>CoL root</th>
<th>causative stem</th>
<th>type of change</th>
<th>role of Ground in event structure</th>
<th>Ground</th>
<th>Ground encoded</th>
</tr>
</thead>
<tbody>
<tr>
<td>tàal ‘come’; u’il ‘return’</td>
<td>tàas ‘bring’; u’s ‘return’</td>
<td>discrete</td>
<td>target state (‘TO’)</td>
<td>≥0D</td>
<td>inherently deictically</td>
</tr>
<tr>
<td>bin ‘go’</td>
<td>bis ‘take’</td>
<td></td>
<td>source state (‘FROM’)</td>
<td></td>
<td>inherently indexically</td>
</tr>
<tr>
<td>màan ‘pass’</td>
<td>màans ‘pass’</td>
<td>between (‘VIA’)</td>
<td>≥0D</td>
<td>lexically</td>
<td></td>
</tr>
<tr>
<td>luk ‘leave’</td>
<td>lu’s ‘remove’</td>
<td>source state (‘FROM’)</td>
<td>≥0D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>k’uch ‘arrive’</td>
<td>k’uchs ‘cause to arrive’</td>
<td>target state (‘TO’)</td>
<td>≥0D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>lúub ‘fall’</td>
<td>lu’s ‘fell’, ‘drop’</td>
<td>source state (‘FROM’)</td>
<td>≥2D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>na’k ‘ascend’</td>
<td>na’ks ‘lift’</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>em ‘descend’</td>
<td>èens ‘pluck’, ‘lower’</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>liik ‘rise’</td>
<td>li’s ‘lift’</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 3. Inactive CoL roots and their derived causative stems**

- Inactive roots lexicalize uncaused state changes (cf. Bohnemeyer in press).
- There are also transitive roots of caused motion, in particular in the domains of insertion/extraction and ballistic motion (e.g., hul ‘insert’; pul ‘throw’). Their grammar is entirely parallel to that of the causativized stems in Table 3.
- The CoL-semantics of the 12 roots listed in Table 3 is summarized in Figure 3:

![Figure 3. The semantics of Yukatek CoL verb roots](image)

**Key:**

- 0D Ground, indexically specified
- 0D Ground, lexically specified
- 3D Ground or 2D enclosure
- 2D Ground
- non-vertical CoL
- vertical CoL
- presupposed CoL

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There are verbs of the inactive class that occasionally occur in CoL-denoting verbal cores, but are not listed in Table 3, since it is not obvious that CoL is their basic meaning; e.g., màah ‘reach’, sometimes used as an alternative to k’uch ‘arrive’. Some inchoative verbs are sometimes used as alternatives to inactive verbs of Table 3; e.g., náah-tal ‘become distant’ instead of bin ‘go’ or luk ‘leave’. One active intransitive stem appears in CoL-denoting cores: siùut ‘turn’, ‘spin’, ‘return’, recruited for the purpose of expressing return to a Place not necessarily identical with the deictic center, thus filling a gap in the system of Table 3, given the deictic specialization of u’il.
Verb framing

• In order for a clause to encode CoL, the main verb must lexically specify CoL.
• Manner of motion is encoded elsewhere, e.g., in an embedded gerund core (5) or in a manner focus construction (6):

(5) \[ \text{Le=ch’iich’=o’ h-e\text{-}m u=xïïk\text{-}nal te=che’=o’}. \]
\[ \text{DET=bird=D2 PRV-descend(B.3.SG) A.3=fly LOC:DET=wood=D2} \]
‘The bird flew down from the tree [lit. it descended flying wrt. the tree].’ (fieldnotes)

(6) \[ \text{Le=ch’iich’=o’ xïïk\text{-}nal-il h-\text{-}uuch uy=em\text{-}el} \]
\[ \text{DET=bird=D2 fly=REL PRV-happen(B.3.SG) A.3=descend-INC} \]
\[ \text{te=che’=o’}. \]
\[ \text{LOC:DET=wood=D2} \]
‘The bird flew down from the tree [lit. flyingly (is how) it happened to descend wrt. the tree].’ (fieldnotes)

• Clauses combining a manner main verb with a Ground phrase merely denote stationary manner activities at the place specified by the Ground phrase:

(7) \[ \text{Le=ch’iich’=o’ túun xïïk\text{-}nal y=\text{ôok’} ol le=che’=o’}. \]
\[ \text{DET=bird=D2 PROG:A.3 fly A.3-top DET=wood=D2} \]
‘The bird is flying [i.e. circling!] above the tree.’ (fieldnotes)

• This constitutes a ‘verb-framed’ pattern of motion lexicalization in Talmy’s (1985, 2000) parlance:

Figure 4. Verb-framing (after Talmy 2000 Vol. II : 49)

II.2. The Ground phrase

• The Ground phrase merely denotes a Place function (in the sense of Jackendoff 1983), not a Locative or Path function!
  • When the Ground is denoted by a common noun, the Place function is assigned to it by a preposition or a ‘Relational Spatial Nominal’ (Nrel)
  • There is arguably only one genuine spatial preposition, namely ich ‘in’ (cf. Levinson & Meira 2003)
  • In (8), ich alternates with the generic preposition it’:

(8) a. \[ \text{Le=kâa\text{-}r\text{ao=} o’ ti’ y\text{\=aan ich / ti’ le=kââ\text{-}h\text{a=} o’}.} \]
\[ \text{DET=cart=D2 LOC EXIST(B.3.SG) in / LOC DET=box=D2} \]
‘The cart, it is in the box.’ (or rather: it exists with respect to the box’s inside)

b. \[ \text{Le=kâa\text{-}r\text{ao=} o’ h-\text{ôok ich / ti’ le=kââ\text{-}h\text{a=} o’}.} \]
\[ \text{DET=cart=D2 PRV-enter(B.3.SG) in / LOC DET=box=D2} \]
‘The cart, it entered (lit. in) the box.’ (or rather: it entered with respect to the box’s inside)
When going means becoming gone

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c. Le=kàaro=o’ h-hóok’ ich / ti’ le=kàaha=o’. DET=cart=D2 PRV-exit(B.3.SG) in / LOC DET=box=D2
‘The cart, it exited [lit. in] the box.’ (or rather: it exited with respect to the box’s inside)

Neither ich nor ti’ distinguish between Locative (AT, (8a)), Goal (TO, (8b)), or Source (FROM, (8c)) functions
and they are compatible with Route (VIA) and Direction (TOWARD/AWAY-FROM) functions as well.
The same holds for the Nrel òok’ol ‘(on) top’, ‘upper side’, ‘above’ in (9):

(9) a. …h-tàal y=óok’ol le=pak’=o’.
PRV-come(B.3.SG) A.3=roll A.3=on DET=brickwork=D2
‘…it came rolling on the wall.’ (PATHS 09 SBM)

b. H-na’k y=óok’ol le=che’=o’.
PRV-ascend(B.3.SG) A.3=on DET=wood=D2
‘It went onto the piece of wood.’ (FIGURE_GROUND 13 NMP)

c. Káa=h-em y=óok’ol le=che’=o’…
CON=PRV-descend(B.3.SG) A.3=on DET=wood=D2
‘It went down from the piece of wood…’ (FIGURE_GROUND 03 RMC)

The most frequent Nrel’s are listed in Table 4.
The function of Nrel’s is to select a part of the Ground or a Region projected by it for the Place denoted by a spatial adjunct.
If no particular part or Region is chosen, the generic preposition ti’ is selected by default.

<table>
<thead>
<tr>
<th>CONSTRUCTION IN GROUND ADJUNCTS</th>
<th>NOUN</th>
<th>GLOSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>[CORE [SetA,Nrel NP]]</td>
<td>àanal</td>
<td>under</td>
</tr>
<tr>
<td></td>
<td>iknal</td>
<td>at</td>
</tr>
<tr>
<td></td>
<td>òok’ol</td>
<td>on</td>
</tr>
<tr>
<td>[CORE [ti’ [SetA,Nrel NP]]]</td>
<td>chúumuk</td>
<td>center</td>
</tr>
<tr>
<td>or [CORE [Nrel(-il) ti’ NP]]</td>
<td>háal</td>
<td>edge</td>
</tr>
<tr>
<td></td>
<td>nak’</td>
<td>belly</td>
</tr>
<tr>
<td></td>
<td>(ba’)pàach</td>
<td>back</td>
</tr>
<tr>
<td></td>
<td>(ak)táan</td>
<td>front</td>
</tr>
<tr>
<td></td>
<td>tséel</td>
<td>side</td>
</tr>
<tr>
<td></td>
<td>ts’u’</td>
<td>core</td>
</tr>
<tr>
<td></td>
<td>xno’h</td>
<td>right</td>
</tr>
<tr>
<td></td>
<td>xts’i’k</td>
<td>left</td>
</tr>
<tr>
<td></td>
<td>xäul</td>
<td>end</td>
</tr>
<tr>
<td></td>
<td>yáam</td>
<td>interstice</td>
</tr>
</tbody>
</table>

Table 4. Frequent Nrel’s in Yukatek Ground-denoting adjuncts

II.3. Projecting CoL

• The Ground phrase doesn’t encode the role of the Ground in the CoL event
  i.e., doesn’t distinguish among TO, FROM, VIA, and AT functions.
• These functions are assigned by the head of the verbal core alone.
• As a consequence, it is not possible to refer to more than one Ground in a single verbal core. Consider (10),
an unacceptable rendition of the scenario in Figure 5-6:

3 Chúumuk ‘center’ is an exception in that it occurs adverbially without –il. As in other Mayan languages (cf. Levinson 1994 for Tzeltal), body part terms are used very productively to denote the parts of inanimate objects. Such body part terms can be used as Nrel’s in Ground-denoting adjuncts as well. Among the items in Table 4, at least nak ‘belly’, ‘mid height’, pàach ‘back’, ‘behind’, ‘perimeter’, ‘outside’, and táan ‘front’, ‘before’ fall in this category.

4 There is one exception: the indexical CoL verbs bin ‘go’, tàal ‘come’, and u’l ‘return’ may take Direction-denoting
Structures like (10) are plain gibberish. The consultant who was confronted with (6) corrected me as follows:

(11)  
\begin{align*}
\text{Le}= & \text{chan} \quad \text{siirkulo} \quad \text{chak}= & \text{O}' \\
\text{DET}= & \text{DIM} \quad \text{circle} \quad \text{red}(B.3.SG)= & \text{D2} \quad \text{IMPF-A.3}= & \text{leave}\text{-INC} \quad \text{A.3}= & \text{roll} \\
\text{'The little circle, it left rolling'}
\end{align*}

\begin{align*}
\text{y}= & \text{ök'}ol \quad \text{le}= & \text{che'} \\
\text{A.3}= & \text{on} \quad \text{DET}= & \text{wood} \quad \text{A.3}= & \text{at} \quad \text{DET}= & \text{triangle}= & \text{D2} \\
\text{'at the little blue square; it passed rolling'}
\end{align*}

\begin{align*}
\text{xan} \quad \text{y}= & \text{ök'}ol \quad \text{le}= & \text{chan} \quad \text{che'} \quad \text{k'an}= & \text{O'}; \\
\text{also} \quad \text{A.3}= & \text{on} \quad \text{DET}= & \text{DIM} \quad \text{wood} \quad \text{yellow}(B.3.SG)= & \text{D2} \quad \text{IMPF-A.3}= & \text{reach}\text{-INC} \\
\text{'also on the little yellow plank; it reached'}
\end{align*}

\begin{align*}
\text{u}= & \text{balak'} \quad \text{ti'} \quad \text{te'l} \quad \text{y}= & \text{iknal} \quad \text{le}= & \text{chan} \quad \text{triàangulo}= & \text{O}'. \\
\text{A.3}= & \text{roll} \quad \text{LOC}= & \text{there} \quad \text{A.3}= & \text{at} \quad \text{DET}= & \text{DIM} \quad \text{triangle}= & \text{D2} \\
\text{'rolling there at the little triangle.' (ECOM B4 EMB)}
\end{align*}

In (11), the three CoL events of Figure 5-6 (FROM the square, VIA the plank, and TO the triangle) are distributed across three independent clauses, each headed by a different inactive CoL verb.

Yukatek lacks serial verb or multi-verb constructions that permit a semantic integration of a sequence of CoL subevents into a complex CoL Macro-event.

It is impossible in Yukatek to semantically represent multiple CoL events as parts of a single ‘Macro-event’ (Talmy 2000: Vol. I) -

- that the CoL events of (11) are parts of a single T-Motion event is merely an implicature!

### III. COL WITHOUT FIGURE MOTION

#### III.1. Ground moves

- Consider Figure 7-8: the enclosure moves such that ball ends up inside.

adjuncts in addition to their inherent indexical Grounds.
When going means becoming gone

• In describing this scenario, it would be infelicitous to utter (12) out of context.5

(12) #Le=bóola=o’ h-òok te=siirkulo=o’.
DET=ball=D2 PRV-enter(B.3.SG) LOC:DET=circle=D2
‘The ball, it entered the circle.’ (ENTER_EXIT 03 EMB)

• But unlike its English equivalent, (12) is not semantically in contradiction with Figure 7-8 for most of my consultants.

• The problem is merely that (12) invites a strong implicature to the effect that the theme moves.

  o If this implicature is blocked or cancelled in context, application of (12) to Figure 7-8 is fine for most consultants:

(13) H=tàal le=àaro y=ìkna le=bóola=o’;
PRV=come(B.3.SG) DET=ring A.3=at DET=ball=D2
le=bóola=o’ h=òok=ih.
DET=ball=D2 PRV=enter-B.3.SG
‘The ring came to the ball; the ball, it entered.’ (ENTER_EXIT 03 SBM)

• Even consultants who reject (13) generally accept (14), in which merely the result state of having entered is ascribed to the ball:

(14) T-u=huts’-ah u=báah=e’,
PRV-A.3=approach-CMP(B.3.SG) A.3=self=D3
káa=t-u=k’al-ah le=bóola=o’,
CON=PRV-A.3=close-CMP(B.3.SG) DET=ball=D2
káa=h=ts’o’k=e’, le=bóola=o’, óok-a’n, (…)
CON=PRV=end(B.3.SG)=TOP DET=ball=D2 enter-RES(B.3.SG)
‘[The ring] approached, and it enclosed the ball, and then, the ball, it was entered, (…)’
(ENTER_EXIT 03 FEE)

• To the predication of the result states, the implicature of Figure motion is irrelevant; thus it does not get in the way of applying CoL verbs in reference to Ground Motion events.

• Essentially the same distribution is found with na’k ‘ascend’ in relation to the scenario in Figure 9-10, in which a slope slides under a ball:

(15) Le=chan tàabla=o’ h=péek-nah-ih, káa=h=na’k
DET=DIM plank=D2 PRV=move-CMP-B.3.SG káa=PRV=ascend(B.3.SG)

The animations illustrated in Figure 7-18 are part of the Motion verb stimulus, version 2, designed by Stephen Levinson and colleagues (cf. Field Manual 2001, Language and Cognition Group, Max Planck Institute for Psycholinguistics). I elicited descriptions of these clips with five adult native speakers in the summer of 2001 in Yaxley, Quintana Roo, Mexico.

Figure 9. First frame of FIGURE_GROUND 14
Figure 10. Last frame of FIGURE_GROUND 14

• Most consultants find the description in (15) perfectly acceptable for this scenario:
le=chan  kaniika  y=éetel  che’  te’l  y=óök=ol o’.
DET=DIM  marble  A.3=with wood  there  A.3=on=D2

‘The little plank, it moved, and the little marble and the tree ascended there on top.’
(FIGURE_GROUND 14 EMB)

• And again, the result state of na’k ‘ascend’ is considered even more applicable to the ball:

(16)  Le=táabla o’  káa=h-háarax-nah =e’,
DET=plank=D2  CON=PRV-slide-CMP(B.3.SG)=D3
káa=h-em  káabal.
CON=PRV-descend  low
Káa=h-p’áat  le=bòola  y=óökol  na’k-a’n.
CON=PRV-quit\ ACAUS(B.3.SG)  DET=ball  A.3=on  ascend-RES(B.3.SG)

‘The plank, it slid, it went down. The ball ended up on top of it ascended.’ (FIGURE_GROUND 14 RMC)

• Not all CoL verbs are compatible with Ground motion:
  o consider the scenario in Figure 11-12, in which a stick moves to a ball
  o in this case, the verb k’uch ‘arrive’ is completely unacceptable with the ball as theme to all consultants,
    even if it is stated in context that it is the stick that moves.

(17)  Káa=h-bin  u=háarax=e’;  káa=h-ts’o’k =e’,
CON=PRV-go(B.3.SG)  A.3-slide=D3  CON=PRV-end(B.3.SG)=D3
k’uch-a’n  le=bòola  y=iknal =o’.
arrive-RES(B.3.SG)  DET=ball  A.3=at=D2

‘(The stick) went sliding; [when/and then] that became over, the ball was in the state of having
arrived next to it.’ (FIGURE_GROUND 11 NMP)

• It appears that there is a hierarchy of CoL verbs in terms of acceptability with Ground Motion:6

(18)  \begin{align*}
    \text{hóok} & \quad \text{‘exit} \\
    \text{óok} & \quad \text{‘enter}
\end{align*} > \begin{align*}
    \text{na’k} & \quad \text{‘ascend}
    \text{em} & \quad \text{‘descend}
    \text{líik} & \quad \text{‘rise}
    \text{luáab} & \quad \text{‘fall}
    \text{máan} & \quad \text{‘pass}
\end{align*} > \begin{align*}
    \text{bin} & \quad \text{‘go}
    \text{táal} & \quad \text{‘come}
    \text{luk} & \quad \text{‘leave}
    \text{k’uch} & \quad \text{‘arrive}
    \text{u’l} & \quad \text{‘return}
\end{align*}

• By hypothesis, the verbs on the right in (18) are most and those on the left least strongly associated with
  translational motion of the Figure.
• It is conspicuous that those five roots that are least acceptable with Ground motion all entail simple AT
  Locative relations wrt. ≥0D Grounds as their source or target states.

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6 Note that the placement of em ‘descend’, líik ‘rise’, luáab ‘fall’, and u’l ‘return (to deictic center)’ in (18) is based on
conjecture; these have not actually been tested for applicability under Ground Motion.
III.2. Figure emerges/disappears

- There is no apparent difference in the applicability of Yukatek CoL verbs under teleportation scenarios compared to that under Ground Motion scenarios.
- (19)-(20) feature óök ‘enter’ in descriptions of a scene in which a ball “beams” into an enclosure; cf. Figure 13-14

\[\text{Le}=\text{chan} \quad \text{bòola}=\text{o’}, \quad \text{káa}=\text{h}=\text{sáát}=\text{e’}, \quad \text{DET}=\text{DIM} \quad \text{ball}=\text{D2} \quad \text{CON}=\text{PRV}=\text{lose}\text{:ACAUS}(B.3.SG)=\text{TOP}\]

\[
\begin{align*}
\text{káa}=\text{h}=\text{chiik-pah} & \quad \text{ka’}=\text{téen}=\text{e’}, & \quad \text{ich} \quad \text{le}=\text{chan} \quad \text{áaro} \\
\text{CON}=\text{PRV}=\text{appear}\text{-SPONT}(B.3.SG) & \quad \text{two}=\text{CL}.\text{times}=\text{TOP} & \quad \text{in} \quad \text{DET}=\text{DIM} \quad \text{ring} \\
\text{yàan}=\text{o’} & \quad \text{h}=\text{óök} & \quad \text{chiik-pah-}\text{al} \\
\text{EXIST}(B.3.SG)=\text{D2} & \quad \text{PRV}=\text{enter}(B.3.SG) & \quad \text{appear}\text{-SPONT}\text{-INC}
\end{align*}
\]

‘The little ball, [when/and then] it vanished, [when/and then] it appeared again, it was in the ring; it entered emerging.’ (ENTER_EXIT_07 RMC)

\[\text{(20) Káa}=\text{h}=\text{sáát}=\text{e’}, \quad \text{CON}=\text{PRV}=\text{lose}\text{:ACAUS}(B.3.SG)=\text{TOP} \quad \text{káa}=\text{h}=\text{chiik-pah}=\text{e’}, \quad \text{CON}=\text{PRV}=\text{appear}\text{-SPONT}(B.3.SG)=\text{TOP}\]

\[
\begin{align*}
\text{ich-il} & \quad \text{le}=\text{siirkulo} \quad \text{yàan}=\text{i’}; \quad \text{óök-a’n} \\
\text{in-REL} & \quad \text{DET}=\text{circle} \quad \text{EXIST}(B.3.SG)=\text{D4} & \quad \text{enter}\text{-RES}(B.3.SG)
\end{align*}
\]

[When/and then] [the ball] disappears; [when/and then] it appears [again], it’s inside the circle; it has entered.’ (ENTER_EXIT_07 FEE)

- Again, the applicability of CoL verbs under teleportation scenarios increases strongly once the context is specified so as to block the default reading of T-Motion of the Figure, cf. (19).
- And again, acceptability generally increases when some form of the verb is chosen that focuses on the result state of the CoL event, such as the resultative derivation in –a’n in (20).
- And again, applicability to teleportation events seems to vary along the hierarchy (18) above.
  - (21) features máan ‘pass’ in reference to the result state of an event of “beaming” across a dyke, as depicted in Figure 17-18:

\[\text{(21) Káa}=\text{h}=\text{sáát}=\text{e’}, \quad \text{CON}=\text{PRV}=\text{lose}\text{:ACAUS}(B.3.SG)=\text{TOP}\]

\[
\begin{align*}
\text{káa}=\text{h}=\text{ka’}=\text{chiik-pah}=\text{e’} & \quad \text{tu}=\text{láahun-tséel} \\
\text{CON}=\text{PRV}=\text{REP}=\text{appear}\text{-SPONT}(B.3.SG)=\text{TOP} & \quad \text{LOC:A.3}=\text{other}\text{:one-side}
\end{align*}
\]
le=pak’ màah-a’n yàan=o’.
DET=wall pass:_CMP-RES(B.3.SG) EXIST(B.3.SG)=D2

‘[When/and then] [the ball] vanished, [when/and then] it reappeared, it had passed [to] the other side of the wall.’ (PATHS 06 RMC)

III.3. Ground emerges/disappears

• If you build an enclosure around a Figure, can it be said that the Figure has ENTERed the enclosure? And does the Figure EXIT when you tear down the enclosure?
• This has only been tested with ENTER, EXIT, and ASCEND scenarios (and, once again, with animations of teleportation).
• The results suggest an even stronger preference for result state reference
  o or conversely, an even lesser readiness to use these verbs in reference to the CoL events themselves.
• (22) is a description of a stimulus clip in which a stick pierces a ball by “beaming” into it, depicted in Figure 17-28

(22) Káa=h-chíik-pah le=bóola=o’,
CON=PRV-appear-SPONT(B.3.SG) DET=ball=D2
òok-a’n che’ ti’.
enter-RES(B.3.SG) wood LOC(B.3.SG)

‘[When/and then] the ball appeared, [a] stick had entered [lit. wt.] it.’ (FIGURE_GROUND 20 RMC)

IV. FICTIVE MOTION

• Yukatek CoL verbs are compatible with interpretations of fictive CoL (cf. Matsumoto 1996):

(23) K-u=bin Xocempich le=bèeh he’l=a’?
IMPF-A.3=go Xocempich DET=way PRSV=D1
‘Does this road go to [lit. towards] Xocempich?’ (Blair & Vermont-Salas 1965-7: 8.1.1)

(24) Le=riiyo=o’ h-máan ich le=bàaye=o’.
DET=river=D2 PRV-pass(B.3.SG) in DET=valley=D2
‘The river, it passed through the valley.’ (TRQ 1999 3.1.2 SBM)

• But such descriptions are subject to all those constraints on the encoding of CoL events in Yukatek discussed above:
  o In particular, they cannot combine with more than one Ground phrase;
  o and since this phrase does not encode Path relations, they have to make do with the inventory of CoL verbs listed in Table 3 and Figure 3 above.
• It follows that expressions of ‘referential Paths’ (Jackendoff 1990) in Locative descriptions are straightforwardly out.
  o Thus, (25) is a Yukatek rendition of ‘Don Modesto’s house is across the square’
  o here, the perspectivizing function of the fictive ACROSS Path is taken over by the modifier láak’ ‘other’ (fused with the numeral ‘one’ in the example):

(25) Ti’ yàan u=nah-il don Modesto
When going means becoming gone

‘Don Modesto’s house is there on the other side of the square.’ (TRQ 2001 FEE)

• ‘There are trees along the road’ is rendered as ‘There are trees next to [lit. to the side of] the road’;
  o in order to get an approximation of the sense of distributedness of the English model, a positional verb
  from may be used in addition.

• In order to convey extent in the sense of Talmy’s (2000 Vol. I: 138-139) ‘coextension Paths’, as in (3a) The
  highway extends from Denver to Indianapolis, two clauses have to be used:
  o one encoding the fictive Source, most likely headed by hóok ‘exit’;
  o and one headed by the dedicated extent predicate náak ‘extend as far as’, ‘reach’
  o and of course, the Source may also be left implicit, if it is understood in context.

• The orientation of an inanimate Figure is generally expressed by combining resources such as
  ▪ the Nrels of Table 4,
  ▪ dimensional terms (cf. Stolz 1995),
  ▪ positional verbs (cf. Bohnemeyer & Brown ms.),
  ▪ and numeral classifiers;
  o all four types of expressions conflate topological information,
  o and the latter two may in addition also lexicalize orientation information.
  o Consider (26), a consultant asking whether a rhombic object is to be placed with the tip facing up:

(26) Wa’l-kun-bíl te’l ka’nal kun bin u=pùunta?
    stand.up-CAUS-GIV(B.3.SG) there high SR.IRR:A.3 go A.3=tip
    ‘Is its tip to be stood up?’ (Stolz 1995: 247)

• ‘Sensory Path’ expressions such as look into the valley, in which a ‘stimulus’ of perception is construed as a
  Goal (less commonly also a Source) of Fictive Motion (cf. Talmy 2000 Vol. I: 117), appear not to occur in
  Yukatek;
  o stimuli of perception are encoded by the undergoer arguments of transitive perception verbs, even if they
  are construed as Places.

V. CONCLUSIONS

• Translational Motion (T-Motion) is consistently framed as Change of Location (CoL) in Yukatek.
• This manifests itself in the following properties:
  o Verbal cores referring to events of T-Motion must be headed by verbs lexicalizing CoL.
  o What sets Yukatek apart from other verb-framed languages, e.g. Spanish, is the complete lack of Path
    distinctions in Ground-denoting adjuncts
    ▪ the role the Ground plays in the CoL event is specified exclusively by the CoL verbs
  o Path relations are, strictly speaking, not encoded at all in Yukatek.
    ▪ A syntactic reflex of this is the necessity to break down travels along multi-Ground Paths into sequences
      of CoL events wrt. single Grounds,
      ▪ such that each CoL event is encoded by a separate clause.
  o Path relations are not lexicalized in CoL verbs, which merely implicate, but do not entail, T-Motion.
    ▪ Hence CoL verb constructions are also applicable to Ground motion and events in which the
      Ground or the Figure emerge in or disappear from a particular configuration.
    ▪ Acceptability of such uses of CoL-denoting cores increases when the implicature of Figure
      motion is blocked or cancelled.
    ▪ Moreover, CoL verbs are more readily used in reference to result states of CoL events without
      Figure motion.
  o Further evidence, not discussed here:
    ▪ Yukatek has a single CoL root, máan ‘pass’, for all CoL events involving Route Grounds,
      resulting in a hefty amount of underspecification, from the point of view of what is
      distinguished in English by Route-denoting expressions such as along, across, over, past,
      through, etc.
• There are no Direction-denoting verbs in Yukatek, and since Path relations are not lexicalized, Directions are likewise not encoded in Ground phrases. Consequently, Ground phrases are vague regarding Direction interpretations.

• A final effect of the framing of Motion as CoL is the absence of fictive motion metaphors.
  - What is construed as fictive motion in English is expressed, where possible, as fictive CoL in Yukatek.
  - But such expressions obey the same constraints as do all expressions of CoL, which renders this type of metaphor useless for a substantial part of the meanings modeled as fictive motion in English.

REFERENCES


APPENDIX: GLOSSES AND ORTHOGRAPHICAL CONVENTIONS

The orthographic representation in this paper is morphemic rather than morpho-phonemic. The orthography applied is based on Lehmann (1998). In the interlinear morpheme glosses, the following conventions are used: ‘-’ for affixes; ‘=’ for clitics; ‘+’ for compounding; ‘/’ for subsegmental realization or infixation. Abbreviations in the glosses include the following: 1 – 1st person; 2 – 2nd person; 3 – 3rd person; A – set-A cross-reference clitics; ACAUS- anticausative derivation; ALL – universal quantifier; ALT – ‘alternative’ particle (question focus, conditional protasis, disjunctive connective); APP – applicative derivation; ATP – antipassive derivation; B – set-B cross-reference suffixes; CAUS – causative derivation; CAUSE – causal preposition; CMP – completive status; D2 – distal-deictic/anaphoric particle; DEF – definite determiner; EXIST – existential/locative/possessive predicate; IMPF – imperfective aspect; INC – incomplete status; INCH –
inchoative derivation; IRR – irrealis modality; LOC – generic preposition; PASS – passive derivation; PL – plural; PROG – progressive aspect; PRV – perfective aspect; REL – relational derivation (nouns); RES – resultative derivation; SG – singular; TERM – terminative aspect; TOP – topic marker.